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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,499	04/03/2001	Gregory A. Peterson	EDAC:013(10793.0013.NPUS0	2017
7590	05/01/2006			EXAMINER PAIK, SANG YEOP
Thomas V. Miller Howrey Simon Arnold & White, LLP P.O. Box 4433 Houston, TX 77210-4433			ART UNIT 3742	PAPER NUMBER

DATE MAILED: 05/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	09/825,499	Applicant(s)
Examiner	Art Unit Sang Y. Paik	3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 02 February 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 7,13,20-26,28-37 and 39-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 7,13,20-26,28-37 and 39-42 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/13/05.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 7, 13, 21-26 and 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Coe (US 3,149,666).

Coe shows a heat sink having a tubular body made of thermally conductive material with a plurality of internal fins extending symmetric around the center of the interior of the tubular body, the internal fins have varying lengths with the fins in the center of set are longer than the fins at the edge of the set, an exterior surface having a substantially flat surface with a mounting ridge (22) which is capable of being mounting a clip to hold a component substantially perpendicular against the substantially flat portion, the exterior surface with a plurality of exterior fins extending from the exterior surface, and a fan positioned adjacent to an open end of the tubular body.

The recitation “formed form a single extrusion” is a process by which the tubular body can be made, and since such recitation renders the claim as a product by process and since the patentability of an apparatus is determined by its product and not by its process, the recited tubular body structure is met by Coe.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 20, 32, 36, 37, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell (US 6,339,212) in view of Goetz et al (US 5,717,189), Gandre et al (US 5,828,549) and Earl et al (US 5,304,735).

Campbell shows the cooktop claimed including a cooking plate, a plurality of heating units and a controller mounted below the cooking plate, a circuit box having a plurality of electronic components, and a heat sink to cool down the electronic components. However, Campbell does not explicitly show the circuit board and further does not show the claimed heat sink assembly.

Goetz shows a cooktop having a cooking plate with burners that are controlled by the electronic components that provided with the printed circuit boards. In view of Goetz, it would have been obvious to one of ordinary skill in the art to provide the electronic components of Campbell on a circuit board since such circuit board is well known and conventional in the art to create the necessary control circuitry.

Gandre shows a heat sink having a tubular body made from a single, extruded, and thermally conductive material, the tubular body with a substantially flat exterior surface, a plurality of internal fins extending from the interior surface of the heat sink, a plurality of external fins extending from the exterior surface, a fan positioned adjacent to an open end of the

tubular body, and a circuit board attached to the tubular body to cool down the circuit board. Earl shows a heat sink having an exterior surface with a mounting ridge to mount a control board with a clip. Thus, in view of Gandre and Earl, it would have been obvious to one of ordinary skill in the art to adapt Campbell, as modified by Goetz, with the heat sink having a mounting ridge to more securely attach the circuit board.

5. Claims 33-35, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell in view of Goetz, Gandre and Earl as applied to claims 20, 32, 36, 37, 41 and 42 above, and further in view of Coe (US 3,149,666) or McAdam et al (US 3,277,346).

Campbell in view of Goetz, Gandre and Earl shows the cooktop claimed except the internal fins being symmetric around the center of the tubular body with the center fins longer than the edge fins.

Coe and McAdam show a tubular heat sink with a plurality of internal fins extending symmetric around the center of the interior of the tubular body and the internal fins further having varying lengths with the center fins of a set having longer lengths than the edge fins of the set. In view of Coe or McAdam, it would have been obvious to one of ordinary skill in the art to adapt Campbell, as modified by Goetz, Gandre and Earl, with the claimed internal fins to more effectively provide the heat convection away from the electronic circuit components.

Response to Arguments

6. Applicant's arguments filed 2/2/06 have been fully considered but they are not persuasive.

The applicant argues Coe shows a tube and a plurality of quadrant-shaped members of high thermal conductivity and does not show the tubular body made from a single extrusion of

thermally conductive material. This argument is not deemed persuasive. Coe shows a body formed from the plurality of quadrant-shaped members as indicated by the applicant, but contrary to the applicant's remark, the quadrant body forms a tubular body having the internal fins as well as the exterior fins. Furthermore, the recitation of the tubular body which is formed from a single extrusion renders the claims as a product by process claim, and since the patentability of an apparatus is determined by the structure and not by the process, the recited structure is shown to be met by the applied prior art.

The applicant argues that the prior art does not show a mounting ridge for mounting a clip to hold a component substantially perpendicular to the flat portion. The mounting ridge is clearly shown by Coe, and the ability to mount a component perpendicular to the flat portion is inherent as can be done with the applicant's mounting ridge. There is no other structure to distinguish the recited mounting ridge from that of the prior art.

With respect to the combined prior art of Campbell, Goetz, Gandre, and Earl, the applicant argues there is suggestion for the use of or the feature of, a heat sink offered by Goetz. It is noted that Goetz is applied not for its heat sink feature but that of the printed circuit board which is well known to provide electronic components thereto.

With respect to Gandre, the applicant argues that Gandre does not show a mounting ridge and further argues that a component is mounted parallel to a flat portion. It is noted that Gandre is applied to show a tubular body having the internal fins as well as the exterior fins and a fan. Early is further applied that a mount ridge can be provided to mount a component with a clip. The combined prior art shows the claimed structure, and such combination would have been obvious to one of ordinary skill in the art since they are in the same field of endeavor, which is in

the field of heat sinks, and it would have been obvious to one of ordinary skill in the art to adapt the advantages offered by the prior art.

The applicant argues that the combined prior art does not show a component mounted substantially perpendicular against the flat portion of the tubular body. This argument is not deemed persuasive since the side wall of the mounted component is perpendicular to the flat portion, and the mounting ridge as shown by Earl shows the component mounted perpendicular to the flat portion as done by the applicant. There is no other claimed structure to distinguish the recited mounting ridge from that of the prior art.

With respect to McAdam, it is noted that the McAdam reference is applied to teach, among others, the recited internal fins having the center fins being longer than the edge fins, and since the heat sink of McAdam is in the same field of endeavor of heat sinks, its advantages and benefits would have been obvious to modify other kinds of heat sinks to improve the heat transfer functions.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Y. Paik whose telephone number is 571-272-4783. The examiner can normally be reached on M-F (9:00-4:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S.Y.

Sang Y Paik
Primary Examiner
Art Unit 3742

syp